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STATISTICS OF SUICIDES IN NEW ENGLAND.

BY DAVIS R. DEWEY, PH.D.

1. Sources and authorities for statistics.

As far as my inquiry has gone, I have never been able to find that there has been a study of the statistics of suicide of the group of New England states covering any considerable period of time. A partial analysis of the returns of Massachusetts has been frequently and intelligently made, notably so in the Registration Report of 1885, prepared under the editorial supervision of Dr. Frank Wells, but no attempt was even then made to compare these returns with those from other American communities. Few, indeed, of the states outside of New England have established a thorough system of registration of vital statistics, and consequently do not furnish data which warrant an extended or profitable analysis. Some of the large cities are an exception to this rule, but in these, if taken alone, the circumstances and conditions are abnormal, and do not afford a basis for a comparative study, except within very narrow limits.

In several of the New England states, on the other hand, the collection and publication of statistics of mortality has been pursued with increasing success for two or more decades, and now, with the exception of Maine, can be drawn upon for material.

Massachusetts entered upon the work of collecting and digesting statistics of births, deaths, and marriages in 1843, doubtless stimulated by the precedent which England had set in the issue of her first Registration Report in 1839. The returns were naturally imperfect; no reports whatever were made by 35 towns having a population of 76,654 (1840), or about 10 per cent of the total population of the state. In the first report, returns for suicides are given for counties,

months, and ages, but sex is omitted. This latter significant element was not included until the Fourth Report, in 1845. Another addition was also made at that time in including the place of birth of the deceased, a question, however, dropped in 1850. From this time on there is little change in the returns of suicide until 1885. In that year a law was enacted requiring returns of all violent deaths to be made to the Secretary of State by officers known as Medical Examiners, as well as through the customary local registration machinery. In this way the returns of suicides, and in fact of all violent deaths, are duplicated, but in making the special examination of the circumstances attending the death the Medical Examiners endeavor to secure additional data which had previously escaped registration. Since 1884, therefore, we are acquainted with the method of suicide.

In connection with the reports made by Medical Examiners an important question arises as to the completeness and accuracy of the returns of suicide given in the ordinary way, through certification by the attending physician to the local authority, and the subsequent transmission of this information to the state officials. It will be observed that the returns of the Medical Examiners are larger than those given in the body of the Registration Reports. This is seen from the following figures: —

	Registration.	Medical Examiners.
1885	176	181
1886	149	157
1887	165	173
1888	164	190
1889	175	199
	<hr/> 829	<hr/> 900

The Medical Examiners thus find about eight per cent more suicides than those detected by the usual methods, which alone have been relied upon during the greater part of the history of registration in this state.

In preparing Table I, showing the total number of suicides, I have followed, somewhat arbitrarily it is to be confessed,

the registration returns, not that they are regarded as more accurate, but because it does not appear to be fair to compare the returns of Medical Examiners with those collected by a different method previous to 1885. If eight per cent is lost now, it is highly probable, considering the long uniform excellence of the administration of health and vital statistics in Massachusetts, that the same percentage was lost in the earlier period. The adoption of the more complete returns for purposes of comparison would give an exaggerated increase for the past few years.

It is also to be observed that, from a statistical point of view, the loss of eight per cent in the returns of suicides is not a serious error for the treatment of most of the topics connected with this subject. It is not probable that the calculations as to sex, time of year in which the suicide was committed, or age will be affected by the escape of this fractional part. Calculations as to the method by which self-destruction was accomplished are undoubtedly affected by a deficiency in the returns, for only those cases in which the act was committed by some secret and non-public method would go undetected and unreported. For Massachusetts, however, there are no returns of method for the state at large, save those given by the Medical Examiners since 1884, and consequently there is no need for concern in the treatment of this particular inquiry.

The first Registration Report of Rhode Island was issued in 1853, when the time of year, age, sex, county, and occupation was reported for the two suicides which came under observation. Connecticut published her first Report in 1848, but the nosological arrangement was not adopted until the second Report. Connecticut has also, until lately, been defective as to certain important inquiries. No distinction whatever is anywhere made for a portion of the period as to sex of suicides, and consequently for all the larger calculations into which sex enters as a factor this state is omitted from consideration. Vermont began the work of registration

in 1857, but the returns for the first few years are manifestly so imperfect that no attempt has been made to include them within the scope of this study. The arrangement of data is practically similar to that of Massachusetts. New Hampshire has been one of the most recent states to fall into line, and though there are returns for some years previous to 1883, it has not been thought advisable to place reliance upon them. Maine as yet has no state system of registration, a lapse from sound administrative policy which, it is hoped, will soon be remedied. The authorities for the present treatment are therefore found in the Registration Reports of Massachusetts, 1850-1889; Connecticut, 1856-1889; Rhode Island, 1856-1889; Vermont, 1866-1889; and New Hampshire, 1883-1889. The total number of suicides recorded in these states for the periods named amounts to about 6500, a number sufficiently large to encourage an analytic treatment.

2. Number of suicides.

Table I, which follows, presents the number of suicides in the several states referred to, and Table II corrects the comparison by taking into account the changes in the populations of the respective states, and gives the rate per million of inhabitants. The chief point of interest in this table is the decline in the number during the period of the Civil War in Massachusetts and Connecticut, and the steady increase in the rate since that period in those two states, while the others do not present the same regularity. The rate was low during the civil war and the years immediately succeeding that period, as might be expected from a study of similar occurrences in Europe. It is perhaps worthy of notice that the panic year of 1873 did not witness any increase in suicide,—in fact, the rate both in that year and the next was generally low in all the states considered.

TABLE I.

NUMBER OF SUICIDES IN THE NEW ENGLAND STATES (MAINE EXCEPTED), WITH
AVERAGES OF PERIODS OF FIVE YEARS.

Periods and Years.	Massachu- setts.	Connecticut.	Rhode Island.	Vermont.	New Hampshire.
1850	49	....	....	....	....
1851	57	....	....	....	....
1852	76	....	....	....	....
1853	67	....	....	....	....
1854	82	....	....	....	....
1855	91	....	....	....	....
Average, 1851-55	74.6	....	....	....	....
1856	101	20	4	....	....
1857	97	28	8	....	....
1858	82	30	13	....	....
1859	83	25	9	....	....
1860	113	31	12	....	....
Average, 1856-60	95.2	26.8	9.2	....	....
1861	92	31	12	....	....
1862	92	28	8	....	....
1863	67	15	13	....	....
1864	65	19	6	....	....
1865	78	17	12	....	....
Average, 1861-65	78.8	22	10.2	....	....
1866	73	39	11	20	....
1867	75	25	15	24	....
1868	88	20	18	27	....
1869	92	29	15	30	....
1870	91	27	27	23	....
Average, 1866-70	83.8	28	17.2	24.8	....
1871	122	43	19	30	....
1872	117	36	18	25	....
1873	117	24	8	27	....
1874	115	32	18	16	....
1875	159	51	26	27	....
Average, 1871-75	126	37.2	19.8	25	....
1876	119	39	18	31	....
1877	163	52	22	32	....
1878	126	58	21	30	....
1879	161	66	13	27	....
1880	133	48	10	30	....
Average, 1876-80	140.4	52.2	16.8	30	....
1881	165	69	23	30	....
1882	162	65	31	25	....
1883	167	60	24	23	31
1884	184	65	22	28	37
1885	176	81	20	38	33
Average, 1881-85	170.8	68	24	28.8	....
1886	149	80	17	37	28
1887	165	92	16	25	33
1888	164	95	21	33	31
1889	175	80	....	22	29

TABLE II.
PROPORTION OF SUICIDES PER MILLION OF INHABITANTS.

Year.	Massachu- setts.	Connecticut.	Rhode Island.	Vermont.	New Hamp- shire.
1851	55.8	....	.. .	....	....
1852	72.5	....	....	....	....
1853	62.3	....	....	....	....
1854	74.3	....	....	....	....
1855	80.4	....	....	....	....
Average, 1851-55	69.0	....	....	....	....
1856	87.7	47.4	24.5	....	.. .
1857	82.9	65.0	48.2	....	....
1858	68.6	68.0	77.0	....	....
1859	68.6	55.5	52.6	....	....
1860	91.8	67.3	68.7	....	....
Average, 1856-60	79.9	60.6	54.2	....	....
1861	74.3	66.3	68.0	....	....
1862	73.8	59.0	44.8	....	....
1863	53.5	31.1	72.0	....	....
1864	51.6	38.8	32.8	....	....
1865	61.5	34.4	64.8	....	....
Average, 1861-65	62.9	45.9	56.5	...	....
1866	56.0	77.0	57.5	61.4	....
1867	55.9	48.7	76.0	73.6	....
1868	63.8	38.4	88.4	85.5	....
1869	64.9	58.8	71.3	91.1	....
1870	62.4	50.2	124.2	69.5	....
Average, 1866-70	60.6	54.6	83.5	76.2	....
1871	81.6	79.0	84.4	90.6	....
1872	76.3	65.1	77.2	75.5	....
1873	74.4	42.7	33.2	81.5	....
1874	71.3	56.1	72.1	45.3	....
1875	96.3	88.2	100.8	81.5	....
Average, 1871-75	80.0	66.2	73.5	74.9	....
1876	70.9	66.4	68.7	93.6	....
1877	95.7	87.2	82.9	96.5	....
1878	72.8	96.0	78.0	90.3	....
1879	91.6	107.6	47.7	81.3	....
1880	74.5	77.0	36.2	90.3	....
Average, 1876-80	81.1	86.6	62.7	90.4	....
1881	90.9	108.8	81.5	90.3	....
1882	87.8	100.8	108.0	75.3	....
1883	88.9	91.3	81.9	69.2	87.2
1884	96.3	97.1	73.7	84.3	104.2
1885	90.6	118.7	65.7	114.4	92.1
Average, 1881-85	90.9	103.3	82.1	86.7	....
1886	74.5	115.2	54.4	111.4	76.8
1887	80.2	130.1	50.0	75.3	89.7
1888	77.5	132.0	63.9	99.4	83.7
1889	80.4	109.1	....	66.2	77.6

The estimates for population in intercensal years are obtained by applying the customary formula for calculating the geometrical increase of the population : $\sqrt[n]{\frac{p}{p^1}} = r$ in which p

denotes the population at a given census and p^1 the population at a previous census, and n the number of the intervening years. It is unfortunate that in most of the American Registration Reports the compilers and editors have been content with the arithmetical rate of increase instead of the geometrical rate in computing intercensal populations. In some instances, where the population is increasing rapidly and the census is not taken oftener than once in ten years, a considerable error is introduced which ought to be avoided.

From Table II it is clearly seen that the suicidal tendency has been steadily increasing in the last twenty years in Massachusetts and Connecticut; that in Vermont there has been a general advance, not however so regular, while in Rhode Island no marked tendency in any one direction can be discerned. Taking New England as a whole, it seems probable from the data presented that suicides have increased from thirty to forty per cent since 1860. In Connecticut the advance in the rate has been very marked in the past ten years, disclosing an amount which it is difficult to parallel in English-speaking countries.

It is not possible, as far as my examination goes, to show that there is any great difference in the rate from a geographical point of view. In the several quinquennial periods since 1850 Massachusetts has held the maximum rate on three occasions; Connecticut on one; Rhode Island on one; and Vermont on one. On the other hand, in the twenty-three separate years considered individually, 1866-1888, Connecticut bears the palm for ten of the years; Rhode Island for seven; and Vermont for six. The fluctuations are much more variable in the three smaller states than in Massachusetts.

3. Sex of suicides.

For the consideration of sex relations there are grouped together 6473 cases, tabulated in Table III. In all of the states under consideration a distinction is made for sex for some portion of the period analyzed. Connecticut and New Hampshire are not so complete in these returns, but the reports of the others are uniform and satisfactory.

The proportions of males of the whole number for the several states are substantially identical,—75.1 and 77.1 being the extremes. The range of fluctuation during the several periods is slight. In Massachusetts the limits are 70.4 and 81.7 per cent, and in Vermont the maximum and the minimum ratio are almost identical with those of Massachusetts. These ratios do not differ materially from those observed in Euro-

TABLE III. DISTRIBUTION OF SUICIDES IN NEW ENGLAND STATES ACCORDING TO SEX.

Periods.	Massachu- setts.		Rhode Island.		Vermont.		New Hampshire.		Connecti- cut. ³		Total.		Percentage of Males.				Total.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mass.	R. I.	Vt.	N. H.		Conn.	
1851-55	262	110	....	....	....	....	....	....	....	....	262	110	70.4	....	....	....	....	....	70.4
1856-60	361	115	....	....	....	....	....	....	....	....	361	115	75.8	....	....	....	....	....	75.8
1861-65	295	99	....	....	....	....	....	....	....	....	295	99	74.8	....	....	....	....	....	74.8
1866-70	323	96	65	21	100	24	....	....	....	....	488	141	77.0	75.5	80.6	....	....	....	77.6
1871-75	498	132	61	28	98	27	....	....	....	....	657	187	79.0	68.5	78.4	....	....	....	77.8
1876-80	574	128	62	22	111	39	....	....	....	....	747	189	81.7	73.8	73.3	....	....	....	79.7
1881-85	660	194	95	24	103	41	....	....	....	....	858	259	77.2	79.8	71.5	....	....	....	76.7
1886-89 ¹	500	153	49 ²	5 ³	79	32	93	28	276	70	969	272	76.5	92.5	71.2	76.8	79.7	....	78.0
Total.	3,473	1,027	332	100	491	163	93	28	579 ⁴	177 ⁴	4,978	1,495	77.1	76.8	75.1	76.8	76.6 ⁴	....	76.9

¹ For four years only. ² For three years only, 1886-88.³ For 1878-84: males, 303; females, 107. Per cent of males, 73.9. Returns of sex are not given for Connecticut previous to 1878, or for 1885.⁴ Including returns as given in Note 3.

pean countries. In the table prepared by Morselli,* showing the influence of sex on suicide, where 56 percentages are calculated for various periods between 1830 and 1876 for nearly a score of countries, 30 of the male percentages fall between 70 and 80 per cent. Prussia, Belgium, Austria, Italy, and some of the smaller German states have a higher ratio for males, 80 or more. The percentages of the New England states accord more closely with those of Norway, Denmark, France, and England than with those of the central European states. Upon this section it only needs to be added that the balance between males and females in the total population in the several states, with the exception of Massachusetts and Rhode Island, is almost even, and that in these two exceptions the distribution is in favor of the female sex, particularly during the latter portion of the period. A strictly accurate adjustment would, therefore, slightly increase the ratios calculated for males in these states.

4. Suicides according to age.

Tables IV-V present the distribution of suicides according to age, and are based upon 6763 cases. Of these nearly two-thirds belong to Massachusetts. In all the states, except Connecticut, the classification is made for five-year periods by sex up to 20 years of age, and for decennial periods after that year to 80. In Connecticut no distinction is made for sex in the age distribution, and for some unaccountable reason, and obviously by error, some eighteen cases are reported as under ten years of age. Table IV shows the absolute number of suicides in the several age periods; Table V the same facts calculated in percentages for ease of comparison; and Table VI the number of suicides in Massachusetts for each age compared with the total population of similar age. The latter is clearly the most satisfactory treatment of the age element, and I regret that I have not had opportunity to make similar calculations for all the states for

* *Suicide*. American Edition, p. 190.

TABLE IV.
DISTRIBUTION OF SUICIDES ACCORDING TO AGE.

Age Periods.	Massachusetts, 1850-89.			Connecticut, 1878-89.	Rhode Island, 1855-89.			Vermont, 1868-89.			New Hamp- shire, 1882-89.			Total, Excluding Connecticut.		Grand Total.
	M.	F.	Total.		M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	
0-10	....	....	....	18	....	....	....	....	....	....	....	....	....	....	....	18
10-15	14	1	15	{ 33	1	....	1	5	....	5	2	....	2	22	1	26 ¹
15-20	72	69	141		9	7	16	17	8	25	5	4	9	103	88	221 ¹
20-30	545	229	774		61	30	91	74	32	106	17	5	22	697	296	1115
30-40	619	217	836	138	55	31	86	72	30	102	21	6	27	767	284	1189
40-50	700	203	903	167	95	26	121	65	24	89	20	5	25	880	258	1305
50-60	701	140	841	180	105	21	126	98	35	133	36	11	47	940	207	1327
60-70	501	125	626	92	62	13	75	86	20	106	38	8	46	687	166	945
70-80	271	46	317	65	27	5	32	54	11	56	21	2	23	373	64	502
Over 80	48	8	56	21	10	....	10	15	4	19	4	5	9	77	17	115
Total.	3471	1038	4509	836	425	133	558	486	164	641	164	46	210	4546	1381	6763

¹ Of Connecticut's 33, 3 are credited to the period 10-15, and 30 to 15-20.

a longer period of time. It is popularly believed that the maximum tendency toward suicide is found in the earlier age periods, and this error is due to the fact that allowance is not made for the much larger population living in those earlier age periods, and the relatively small number of those living in the more advanced portion of life. The last table shows that the maximum tendency for males in Massachusetts falls in the age period 70-80, and weakens gradually as the preceding age periods are followed back in order. This is not only true for the averages of the two successive quinquennial periods of years, but is in the main true for the years taken individually, showing that the aberrations are not great. This maximum tendency is found in seven of the ten years in this age group of 70-80, and the exceptions are discovered in the neighboring groups on either side.

In the female sex there is not the same uniformity, probably because the data are not numerous enough to warrant a satisfactory generalization. During the first quinquennial period, 1876-1880, there is little difference in the three age

TABLE V.
DISTRIBUTION OF SUICIDES ACCORDING TO AGE IN PERCENTAGES.

Age Periods.	Massachusetts, 1850-89.			Connecticut, 1878-89.			Rhode Island, 1855-89.			Vermont, 1866-89.			New Hamp- shire, 1883-89.			Total, Excluding Connecticut.		Grand Total.
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	
0-10	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.02
10-15	.04	....	.03	....	.02	.02	....	....	.02	....	....	....	....	....	.9	.5	....	.03
15-20	2.0	6.6	3.1	2.1	5.2	2.8	3.5	4.9	3.9	1.0	....	....	3.0	8.7	4.3	2.2	6.3	3.2
20-30	15.7	22.0	17.1	14.6	14.4	22.5	15.2	19.5	16.5	15.2	19.5	16.5	10.4	10.8	10.8	15.3	27.4	16.5
30-40	17.8	20.9	18.5	16.5	12.9	15.4	14.8	18.3	15.9	13.4	14.6	13.9	12.8	13.0	12.9	16.9	20.5	17.6
40-50	20.1	19.5	20.0	19.9	22.3	19.5	21.7	13.4	14.6	13.4	14.6	13.9	12.2	10.8	11.9	19.3	18.7	19.3
50-60	20.2	13.5	18.6	21.5	24.7	15.4	22.6	20.2	21.3	20.7	21.9	23.9	23.9	22.4	22.4	20.6	14.9	18.1
60-70	14.4	12.0	13.8	11.0	14.6	9.7	13.4	17.7	12.2	16.5	23.7	17.4	21.8	15.1	21.8	15.1	12.0	13.9
70-80	7.8	4.4	7.0	7.7	6.3	3.7	5.7	11.1	6.6	8.7	12.8	4.3	10.9	8.2	12.8	8.2	4.6	7.4
Over 80	1.3	.8	1.2	2.5	2.3	....	2.0	3.1	2.4	2.9	2.4	10.8	4.3	1.7	1.7	1.7	1.2	1.7
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

groups between 30 and 60; in the second period the maximum falls in the group 60-70, and there is a steady decrease as the earlier groups are taken up. A more careful analysis further shows that the apparent irregularities are due to very abnormal rates for certain age groups in particular years, as, for example, in 1876 and 1877 there were no suicides between

60 and 70 years of age, exceptions to the rule found only twice in the whole record of suicides in Massachusetts since 1850. There is one point, however, wherein the two sexes differ in a marked way, and that is in the fact that the tendency to suicide is more evenly distributed all through life in the female than in the male sex. The tendency for males is from four to five times as great in the group 70-80 as in that of 20-30; in the female sex this tendency is not more than three times as great.

TABLE VI.

NUMBER OF SUICIDES IN MASSACHUSETTS, 1876-1885, FOR EACH AGE PERIOD COMPARED WITH THE TOTAL POPULATION OF SIMILAR AGE. RATES PER 1,000,000.

MALES.

	10-20.	20-30.	30-40.	40-50.	50-60.	60-70.	70-80.	Over 80.
1876	25.7	54	121	301	281	486	287	243
1877	12.6	173	144	295	400	433	805	470
1878	12.5	117	190	128	409	482	381	217
1879	5.2	153	129	230	492	516	579	208
1880	18.6	106	142	123	294	409	510	400
Average, 1876-80	14.9	121	145	215	375	465	512	308
1881	....	135	164	232	375	404	550	578
1882	11.8	113	198	198	283	486	585	....
1883	5.8	146	150	267	321	345	618	....
1884	11.4	97	161	249	509	404	700	350
1885	11.1	134	195	272	285	479	545	169
Average, 1881-85	8.0	125	174	244	355	424	600	219

FEMALES.

1876	6	64	23	31	46	0	45	0
1877	6	46	68	101	59	0	0	0
1878	0	11	37	19	29	44	43	0
1879	0	22	73	77	28	83	0	132
1880	6	43	50	28	94	63	81	0
Average, 1876-80	4	37	50	51	51	38	34	26
1881	6	43	50	93	39	204	39	0
1882	17	30	63	63	103	99	117	0
1883	6	41	48	53	88	136	76	113
1884	17	40	34	52	98	171	112	0
1885	16	45	81	43	60	19	36	0
Average, 1881-85	12	40	55	61	77	126	76	23

The other states of the New England section agree on the whole with Massachusetts in the maximum tendency in the age period 70-80. Table V shows that New Hampshire presents the only exception for males, and there the maximum is pushed on one decade in life. In females again there is less uniformity, this being particularly marked in Vermont and New Hampshire. If due allowance were made for population in age groups in these states it is probable that the rate would be found to be very high in the latter part of life.

A comparison of the rates per million of total population of similar age, as in Table VI, in Massachusetts with similar calculations made for other countries discloses some interesting results. It is unfortunate that England and Massachusetts do not use the same age grouping so as to make a strictly accurate comparison, but the substance of the differences can be detected from the following table, which gives rates for England and Wales for the period 1861-70:—

Age.	Males.	Females.
10-15	4	3
15-20	28	30
20-25	59	31
25-35	93	35
35-45	163	52
45-55	262	83
55-65	375	86
65-75	357	83
75-85	256	72
85 and over	204	50

In England the maximum rate is between the ages 55 and 65, with little difference between that and the next decade of life. There is the same regular decline in the earlier periods of existence. While the rates are higher in Massachusetts the ratios of increase are substantially the same. The maximum for females in England is also in the age period 55-65, and in this respect there is a greater similarity between the two sexes in England than in Massachusetts. In France the

highest rates for males is found in the age period 70-80, and the same is in the main true of the several countries considered in Table XXIX of the American edition of Morselli's work on suicide.

5. *Time of year.*

The distribution of suicides according to months is presented in Table VII, and the same data are distributed in proportions of 1000 in Table VIII. The tables are based upon 6788 cases. In the Connecticut Reports sex is not distinguished in the time of year of deaths by suicides, and consequently in several of the summaries, as indicated, this state is not included in the calculations.

TABLE VII.
DISTRIBUTION OF SUICIDES ACCORDING TO MONTHS.

Months.	Massachusetts, 1850-89.		Connecticut, 1878-89.	Rhode Island, 1855-88.		Vermont, 1866-89.		New Hamp- shire, 1883-89.		Total Males, Excluding Connecticut.	Total Females, Excluding Connecticut.	Grand Total Both Sexes, Including Connecticut.
	M.	F.		M.	F.	M.	F.	M.	F.			
January....	226	58	56	29	6	34	6	5	5	294	75	425
February...	213	61	46	21	7	27	12	9	5	270	85	401
March.....	306	95	66	32	8	39	14	13	2	390	119	575
April.....	368	110	84	45	17	41	8	21	4	475	139	698
May.....	345	94	81	38	16	55	19	20	4	458	133	672
June.....	334	100	85	42	15	51	9	17	6	444	130	659
July.....	305	113	97	40	14	39	22	19	2	403	151	651
August....	314	84	77	33	10	44	19	15	4	406	117	600
September.	274	87	55	34	12	38	17	13	3	359	119	533
October ...	268	82	75	32	7	39	14	14	5	353	108	536
November..	261	86	61	29	10	43	14	12	2	345	112	518
December..	276	75	66	28	10	39	6	16	4	359	95	520
No. of Cases	3490	1045	849	403	132	489	160	174	46	4556	1383	6788

The suicidal mania for males reaches its maximum in April, while for females there are two maxima, July and April. If we combine the two sexes and include Connecticut, April claims the largest number. In the case of men the decline

TABLE VIII.

DISTRIBUTION OF SUICIDES ACCORDING TO MONTHS IN PROPORTION OF 1000.

Months.	Massachusetts.	Connecticut.	Rhode Island.	Vermont.	New Hampshire.	Males, Excluding Connecticut.	Females, Excluding Connecticut.	Grand Total.
January.....	62.8	65.9	65.4	61.6	45.4	64.5	54.2	62.6
February.....	60.4	54.2	52.3	60.1	63.6	59.2	61.4	59.1
March.....	88.4	77.7	74.8	81.6	68.2	85.6	86.0	84.7
April.....	105.4	98.9	115.9	75.5	113.6	104.2	100.5	102.8
May.....	96.9	95.3	100.9	114.0	109.1	100.5	96.1	98.9
June.....	95.7	100.1	106.5	92.4	104.5	97.4	93.9	97.1
July.....	92.1	114.2	100.9	93.9	95.4	88.4	109.2	95.9
August.....	87.7	90.7	80.4	97.1	86.3	89.1	84.6	88.3
September.....	79.6	64.8	85.9	84.7	72.7	78.8	86.0	78.5
October.....	77.1	88.3	72.9	81.6	86.3	77.4	78.1	78.9
November.....	76.5	71.8	72.9	87.8	63.6	75.7	80.9	76.3
December.....	77.4	77.7	71.0	69.3	90.9	78.8	68.6	76.6

from the April maximum is gradual, there being but a temporary halt in August and December. The minimum is delayed until February, but here the small proportion is undoubtedly due to the fact that this month is lean in days as compared with others. If the distribution could be reduced to a daily computation, it is highly probable that the minimum would be found in the first month of the year. Of the four states, Vermont is the only exception to the seasonal law which appears to hold. In that commonwealth the maximum for males is not touched until May, a month later than in the others. If, however, it be true that the suicidal tendency is intimately associated with temperature, and more particularly with the radical changes which nature displays in the spring of the year, with its revolutions in vegetable life, and in a less degree in animal life, it is natural that the maximum should be delayed in Vermont, where spring is more tardy in its coming. In New Hampshire too it will be observed that there are within one as many suicides of the male sex in May as in April.

For women the number of cases is not sufficiently large in

the smaller states to afford satisfactory generalizations. Vermont and Massachusetts are alike in showing the maximum in July, while April takes the lead in Rhode Island, and June in New Hampshire.

It is a notable difference that the suicidal maximum is found earlier in the year in our New England states than in European countries. According to the abundant material brought together by Morselli, "out of thirty-two periods belonging to seventeen European states, the maximum of suicides fell in June nineteen times; in May eight times; and in July five times only. The minimum in nineteen out of thirty-two times happened in December; seven in January; five in November; and only one in October." To sum up our own conditions in somewhat the same manner, the maximum of suicides in three states fell in April; in one in July; and in another in May. The minimum in all except New Hampshire is found in February, while in this one exception it is found in January.

6. Method of suicide.

The returns for determining the manner or method of suicide are by no means as satisfactory as those which have just been analyzed and tabulated. In Massachusetts there is no material of consequence until 1885, since which date, however, the returns are complete and almost beyond criticism. In New Hampshire and Vermont, the only other two states which pretend to make returns upon this point, the "otherwise" constitutes about one-half in the list of methods assigned. The following table shows the method of suicide in Massachusetts for the five years 1885-89.

Hanging is clearly the favorite method for men, and poison for women. The second choice of each sex is the favorite of the other. Women concentrate their attention practically upon three methods, poison, hanging, and drowning, while men add to their resources, "cutting the throat," and "fire-arms and other weapons." But few men leap from heights

TABLE IX.

METHODS OF SUICIDE IN MASSACHUSETTS, 1885-89.

	M.	F.	T.	Proportion of Males to 100 Females.	Each Sex in Percentages.	
Fire-arms and other weapons...	214	7	221	306	30.3	3.5
Cutting throats.....	71	8	78	887	10.1	4.1
Railroad.....	6	2	8	300	.8	1.0
Drowning.	93	43	136	216	13.2	21.9
Hanging	154	44	199	350	21.8	22.4
Illuminating and other gases...	4	...	4	....	.6	....
Poisons.	139	78	217	178	19.7	39.8
Leaps from heights.....	4	7	11	57	.6	3.5
Other.....	20	7	27	....	2.8	3.5
					100	100

as compared with women, and here the ratio is in favor of the latter sex in the proportion of 7 to 4. Among poisons arsenic is relied upon in more than one-half the cases of recent years. During the brief period of 1886-89, for which poisons are subdivided, the classification is as follows:—

TABLE X.

SUICIDE BY POISONS IN MASSACHUSETTS, 1886-89.

	Males.	Females.	Total.	Percentages.		
				Males.	Females.	Total.
Arsenic and its compounds	53	49	102	48	71	57
Opium and its compounds..	30	8	38	27	12	21
Other poisons.....	27	12	39	25	17	22
Total.....	110	69	179	100	100	100

Arsenic would appear to be used as an agency for self-destruction more by women than by men, the latter making employment of opiums and its compounds more frequently.

A reference to the returns of England shows that poison is employed twice as frequently in proportion to the total number in Massachusetts as in the mother country. Hanging, on the other hand, does not have as many votaries.

There are other relationships respecting the phenomenon of suicide upon which the returns of the New England states throw no light. We are defective in not recording the civil state, the occupation (save some unsatisfactory entries for Rhode Island), educational conditions, or nationality. The above tables, however, embrace the elements which are generally regarded as the most important for the study of this mysterious regular phenomenon of life.